

NOTES ON GEOGRAPHIC DISTRIBUTION

**Mammalia, Chiroptera, Phyllostomidae, *Lampronycotis brachyotis* (Dobson, 1879):
First record in Acre, Brazil**

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Lampronycotis Sanborn, 1949 is a monotypic genus whose single species is *Lampronycotis brachyotis* (Dobson, 1879). Initially described as *Schizostoma brachyote* Dobson, 1879, based on a specimen collected in Cayene, French Guyana (Medellín et al. 1985), *L. brachyotis* has also been cited as *Glyphonycteris brachyotis* Andersen, 1906, *Micronycotis* (*Lampronycotis*) *platyceps* Sanborn, 1949, and *Micronycotis* (*Glyphonycteris*) *brachyotis* Sanborn, 1949. In reviewing Sanborn's types, Goodwin and Greenhall (1961) considered *M. platyceps* as a junior synonym of *M. brachyotis*. *Lampronycotis* was until recently recognized as a subgenus of *Micronycotis* (e.g., Simmons 1996), as proposed by Sanborn (1949). Simmons and Voss (1998), however, considered *Lampronycotis* and other three subgenera (*Glyphonycteris*, *Neonycotis*, and *Trinycteris*) as valid genera based on data later published in Wetterer et al. (2000).

Lampronycotis brachyotis (Figure 1) is easily identified by the yellowish-orange to reddish fur on the throat and upper chest, and by pointed ears, which lacks a cutaneous connective band and have a concave upper outer rim. The third metacarpal is longer than the fourth, which is longer than the fifth. The calcar is shorter than the foot. The dental formula is $2/2, 1/1, 2/3, 3/3 \times 2 = 32$; upper inner incisor less than the height of upper canines, upper outer incisor visible in the tooth-row; and trifold lower incisors (Sanborn 1949; Goodwin and Greenhall 1961; Medellín et al. 1985; Simmons and Voss 1998; Gardner 2007).

Characterized by omnivore habits, *L. brachyotis* includes insects, fruits, nectar, and pollen in its

diet, and shows preference for forest habitats 3-12 m height (Bonacorso 1979). The distribution of the species ranges from Oaxaca, Mexico (Medellín et al. 1985), to southeastern of Brazil (Taddei and Pedro 1996), including the Orinoco and Amazon Basins (Goodwin and Greenhall 1961). A recent record from Yapacaní, Bolivia, was reported by Acosta and Aguanta (2005). In Brazil, *L. brachyotis* has been reported in the states of Amazonas (Sampaio et al. 2003), Pará (Bernard 2001), Piauí and Tocantins (Reis et al. 2007), Bahia (Faria et al. 2006), Espírito Santo (Peracchi and Albuquerque 1985; 1993), and São Paulo (Taddei and Pedro 1996).



Figure 1. Female of *Lampronycotis brachyotis* from Fazenda Experimental Catuaba, Senador Guimard, Acre, Brazil.

On February 16th, 2008; January 31st, and February 1st, 2009, three females (CQUFAC-00162, CQUFAC-00285, and CQUFAC-00286) were collected in open moist forest dominated by bamboo in *Fazenda Experimental Catuaba*

(10°04'19" S, 67°37'22" W), municipality of Senador Guimard, 25 km from Rio Branco, Acre, Brazil. These specimens were captured in a mist-net (7 m x 2.5 m) set at ground level inside a forest fragment of 2,111 ha, surrounded by pastures. They were all prepared as fluid-preserved (70 % alcohol) specimens and were deposited in *Coleção de Quirópteros da Universidade Federal do Acre*, which is stored in the *Coleção Zoológica de Mamíferos* (CZM/UFAC).

Specimens were identified to genus level based on the taxonomic keys in Linares (1987) and on the diagnoses in Goodwin and Greenhall (1961), Simmons and Voss (1998), and Gardner (2007). To determine species identification, a set of external and cranial measurements were taken with a caliper following Taddei and Pedro (1996) (forearm, digits, condylobasal length, maxillary and mandibular tooth-rows, breadth across canines, and mandibular length) and Simmons and Voss (1998) (total length, tail length, hind foot length, ear length, tibia length, greatest length of skull, condyloincisive length, condylocanine length, breadth across molars, post-orbital breadth, zygomatic breadth, breadth of braincase, and mastoid breadth). Calcar length was taken

from the ventral point of junction with the tibia to the most distal point. Measurements obtained for specimens from *Fazenda Experimental Catuaba* are in accordance with those presented by other authors (Tables 1 and 2), including those compiled by Medellín et al. (1985). Absence of previous records of *L. brachyotis* in Acre may be due to the scarcity of bat inventories in this state. In southwestern Amazonia, an area of approximately 180,000 km² has been classified as bamboo-dominated forest, which represents the largest neotropical bamboo-dominated forest area. The two most common bamboo species in this area, *Guadua sarcocarpa* Londoño and P.M. Peterson and *Guadua weberbaueri* Pilger, are endemic to northern and western Amazonia. They are arborescent and climber, and grow to over 20-60 meters height when adjacent trees are available for support (Nelson 1994; Griscon et al. 2007). Until recently, there has been no known work with bats in this particular region. This first report of *L. brachyotis* suggests that increasing capture efforts in this area could lead to more bat species reports and contribute to our knowledge of this interesting group of mammals. With this new record, the state of Acre has now 59 species of bats (Peracchi 1986; Taddei et al. 1990; Nogueira et al. 1999).

Table 1. External measurements* of *Lampronnycteris brachyotis* from *Fazenda Experimental Catuaba*, Senador Guimard, Acre, Brazil, and from additional localities in the neotropical region.

	Present specimens**	Guanapo, Trinidad ¹	São Paulo, Brazil ²	Yapacani, Bolivia ³
Weight	11 - 14	--	--	12.5
Total length	59.3 - 62.1	--	--	64.5
Tail length	8.5 - 9.5	--	--	10
Hind foot length	9.8 - 10.5	11.4 - 12.0	--	12
Calcar length	10.7 - 11.9	8.6 - 10.8	8.6 - 12.0	
Ear length	8.6 - 10.8	--	--	--
Tibia length	16.7 - 17.5	17.4 - 18.5	18.6 - 19.7	18.2
Forearm length	40.4 - 40.7	38.9 - 41.1	41.8 - 43.6	42.1
Third metacarpal	38.5 - 40.1	37.0 - 38.9	39.1 - 41.7	--
First falange	14.2 - 14.7	12.9 - 14.1	13.8 - 15.2	--
Second falange	18.2 - 18.6	16.1 - 17.6	17.2 - 18.8	--
Third falange	7.4 - 9.4	9.1 - 9.5	8.1 - 9.3	--
Fourth metacarpal	36.7 - 40.1	35.9 - 37.9	37.6 - 40.2	--
First falange	9.6 - 10.3	9.5 - 9.9	10.4 - 11.1	--
Second falange	11.2 - 12.5	10.3 - 10.9	11.0 - 11.6	--
Fifth metacarpal	36.3 - 39.0	35.1 - 36.8	37.4 - 39.9	--
First falange	10.6 - 10.9	9.1 - 11.3	11.2 - 12.1	--
Second falange	8.5 - 12.1	9.6 - 10.4	10.4 - 11.5	--

* Except for weight, shown in grams, all measurements are in millimeters.

** Measurements of three adult females; ¹Sanborn (1949); ²Taddei and Pedro (1996); ³Acosta and Aguanta (2005).

Table 2. Cranial measurements* of *Lampronnycteris brachyotis* from *Fazenda Experimental Catuaba*, Senador Guimard, Acre, Brazil, and from additional localities in the neotropical region.

	Present specimens**	Guanapo, Trinidad ¹	São Paulo, Brazil ²	Yapacaní, Bolivia ³
Greatest length of skull	20.67	21.2 - 21.6	21.8 - 22.3	21.6
Condylolincisive length	18.74	--	--	--
Condyllocanine length	18.04	--	18.8 - 19.4	--
Condylobasal length	18.17	--	19.4 - 20.2	19.62
Length of maxillary tooth-row	7.89	8.0 - 8.2	8.2 - 8.5	8.78
Breadth across molars	6.9	6.6 - 6.8	7.0 - 7.4	7.32
Breadth across canines	3.63	3.8 - 4.0	3.8 - 4.2	3.6
Post-orbital breadth	4.84	4.9 - 5.2	4.9 - 5.2	--
Zygomatic breadth	10	10.3 - 10.6	10.6 - 11.0	10.98
Breadth of brain case	8.72	8.7 - 8.8	8.6 - 8.8	--
Mastoid breadth	8.61	9.4 - 9.6	9.3 - 9.9	--
Mandibular length	13.65	--	13.8 - 14.2	--
Length of mandibular tooth-row	9.08	--	8.8 - 9.0	8.64

* All values are in millimeters.

** Measurements of one skull; ¹Sanborn (1949); ²Taddei and Pedro (1996); ³Acosta and Aguanta (2005).

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Literature Cited

- Acosta, L. and F. Aguanta. 2005. Nota sobre un nuevo registro de murciélago (*Lampronnycteris brachyotis*) para Bolivia. *Kempffiana* 1(1): 65-69.
- Bernard, E. 2001. Species list of bats (Mammalia, Chiroptera) of Santarém area, Pará State, Brazil. *Revista Brasileira de Zoologia* 18(2): 455-463.
- Bonaccorso, F.J. 1979. Foraging and reproductive ecology in a Panamanian bat community. *Bulletin of the Florida State Museum, Biological Science* 24: 359-408.
- Faria, D., B. Soares-Santos and E. Sampaio. 2006. Bats from the Atlantic rainforest of southern Bahia, Brazil. *Biota Neotropica* 6(2):2-13.
- Gardner, A.L. 2007. *Mammals of South America*. Chicago and London: The University of Chicago Press. 669 p.
- Goodwin, G.G. and A.M. Greenhall. 1961. A review of the bats of Trinidad and Tobago. *Bulletin of the American Museum of Natural History* 122: 187-301.
- Griscon, B.W., D.C. Daly and M.S. Asthon. 2007. Floristic of bamboo-dominated stands in lowland terra-firma forests of southwestern Amazonia. *The Journal of the Torrey Botanical Society* 134(1): 108-125.
- Linares, O.J. 1987. *Murciélagos de Venezuela*. Caracas: Cuadernos Lagoven. 119 p.
- Medellín, R., D.E. Wilson and D.L. Navarro. 1985. *Micronnycteris brachyotis*. *Mammalian Species* 251: 1-4.
- Nelson, B.W. 1994. Natural forest disturbance and change in the Brazilian Amazon. *Remote Sensing Reviews* 10:105-125.
- Nogueira, M.R., A. Pol and A.L. Peracchi. 1999. New records of bats from Brazil with a list of additional species for the chiropteran fauna of the state of Acre, western Amazon basin. *Mammalia* 63(3): 363-368.
- Peracchi, A.L. and S.T. Albuquerque. 1985. Considerações sobre a distribuição geográfica de algumas espécies do gênero *Micronnycteris* Gray, 1866 (Mammalia, Chiroptera, Phyllostomidae). *Arquivos da Universidade Federal Rural do Rio de Janeiro* 8(1-2): 17-22.
- Peracchi, A.L. 1986. Considerações sobre a distribuição e a localidade-tipo de *Sphaeronycteris toxophyllum* Peters, 1882 (Chiroptera, Phyllostomidae). *Anais VI Congresso Brasileiro de Zoologia. Publicações Avulsas do Museu Nacional* 65: 97-100.
- Peracchi, A.L. and S.T. Albuquerque. 1993. Quirópteros do município de Linhares, Estado do Espírito Santo, Brasil (Mammalia, Chiroptera). *Revista Brasileira de Biologia* 53: 575-581.

- Reis, N.R., A.L. Peracchi, W.A. Pedro and I.P. Lima. 2007. Morcegos do Brasil. Londrina: Nélío R. dos Reis. 253 p.
- Sampaio, E., E.K.V. Kalko, E. Bernard, B.R. Herrera and C.O. Handley Jr.. 2003. A biodiversity assessment of bats (Chiroptera) in a tropical lowland rainforest of Central Amazonia, including methodological and conservation considerations. *Studies on Neotropical Fauna and Environment* 38(1):17-31.
- Sanborn, C.C. 1949. Bats of the genus *Micronycteris* and its sub-genera. *Fieldiana Zoology* 31: 215-233.
- Simmons, N.B. 1996. A new species of *Micronycteris* (Chiroptera: Phyllostomidae) from northeastern Brazil, with comments on phylogenetic relationships. *American Museum Novitates* 3158: 1-34.
- Simmons, N.B. and R.S. Voss. 1998. The mammals of Paracou, French Guiana: a Neotropical lowland rainforest fauna part 1. Bats. *Bulletin of the American Museum of Natural History* 237: 1-219.
- Taddei, V.A., I.M. Rezende and D. Camora. 1990. Notas sobre uma coleção de morcegos de Cruzeiro do Sul, Rio Juruá, Estado do Acre (Mammalia Chiroptera). *Boletim do Museu Paraense Emílio Goeldi* 6 (1): 75-88.
- Taddei, V.A. and W.A. Pedro. 1996. *Micronycteris brachyotis* (Chiroptera, Phyllostomidae) from the state of São Paulo, Brazil. *Revista Brasileira de Biologia* 56(2): 217-222.
- Wetterer, A.L., M.V. Rockman and N.B. Simmons. 2000. Phylogeny of phyllostomid bats (Mammalia: Chiroptera): data from diverse morphological systems, sex chromosomes, and restriction sites. *Bulletin of the American Museum of Natural History* 248: 1-200.
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